

***Privacy by Design:  
Gold Standard for the 21<sup>st</sup> Century***

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[www.privacybydesign.ca](http://www.privacybydesign.ca)



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# **Privacy by Design:** *The Trilogy of Applications*

**Information  
Technology**

**Accountable  
Business Practices**

**Physical Design  
& Infrastructure**

# *Privacy by Design:* *The 7 Foundational Principles*

1. *Proactive* not *Reactive*;
2. Privacy as the *Default* setting;
3. Privacy *Embedded* into Design;
4. *Full* Functionality:  
Positive-Sum, not Zero-Sum;
5. End-to-End **Security**:  
Full Lifecycle Protection;
6. **Visibility and Transparency**:  
Keep it Open;
7. **Respect for User Privacy**:  
Keep it User-Centric.



## Privacy by Design

### *The 7 Foundational Principles*

Ann Cavoukian, Ph.D.  
Information & Privacy Commissioner  
Ontario, Canada

*Privacy by Design* is a concept I developed back in the 90's, to address the ever-growing and systemic effects of Information and Communication Technologies, and of large-scale networked data systems.

*Privacy by Design* advances the view that the future of privacy cannot be assured solely by compliance with regulatory frameworks; rather, privacy assurance must ideally become an organization's default mode of operation.

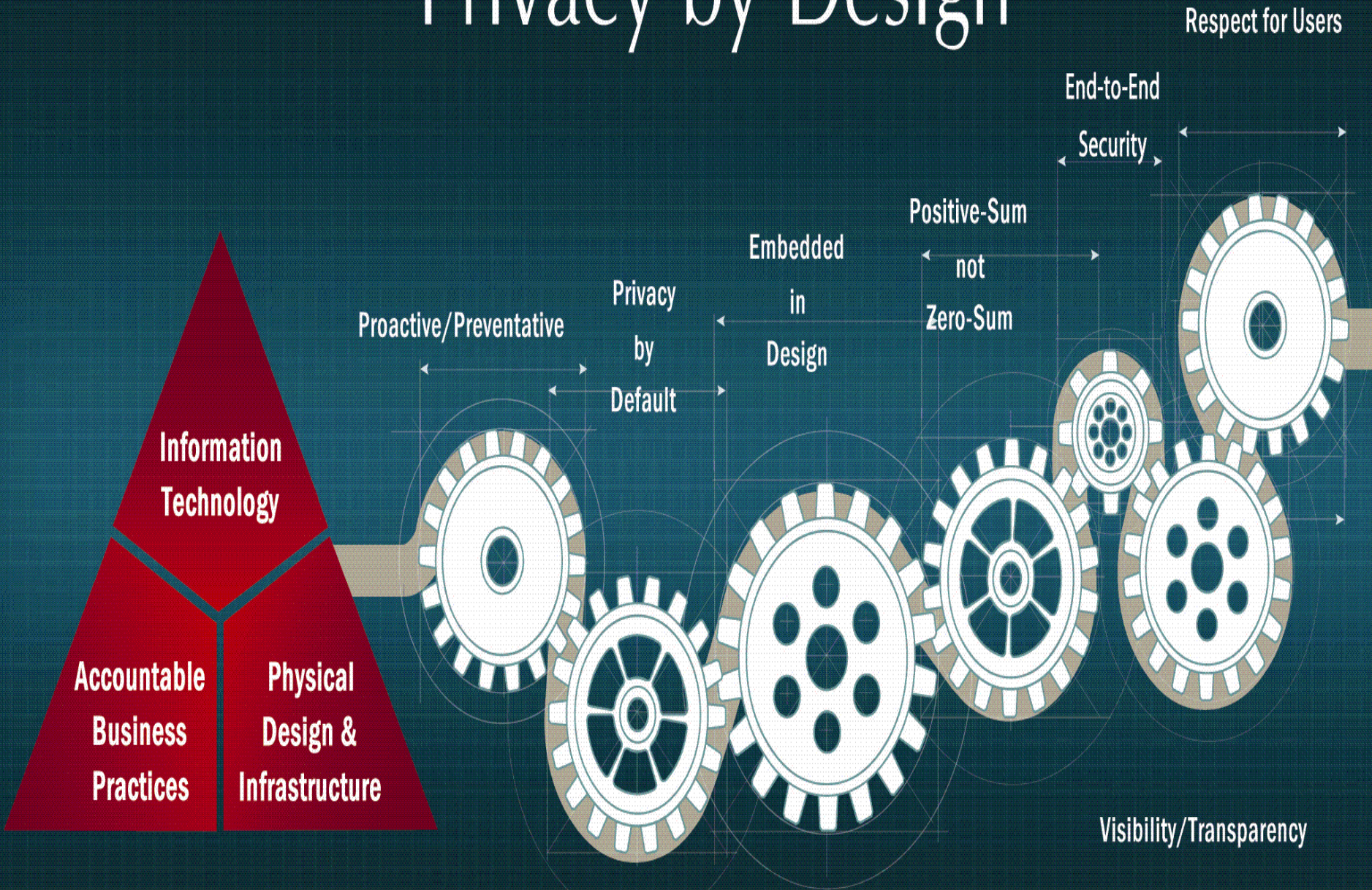
Initially, deploying Privacy-Enhancing Technologies (PETs) was seen as the solution. Today, we realize that a more substantial approach is required — extending the use of PETs to *PETS Plus* — taking a positive-sum (full functionality) approach, not zero-sum. That's the "*Plus*" in *PETS Plus*: positive-sum, not the either/or of zero-sum (a false dichotomy).

*Privacy by Design* extends to a "Trilogy" of encompassing applications: 1) IT systems; 2) accountable business practices; and 3) physical design and networked infrastructure.

Principles of *Privacy by Design* may be applied to all types of personal information, but should be applied with special vigour to sensitive data such as medical information and financial data. The strength of privacy measures tends to be commensurate with the sensitivity of the data.

The objectives of *Privacy by Design* — ensuring privacy and gaining personal control over one's information and, for organizations, gaining a sustainable competitive advantage — may be accomplished by practicing the following 7 Foundational Principles (*see over page*):

# Privacy by Design



# **Embedding Privacy at the Design Stage:** *The Obvious Route*

- *Cost-effective*
- *Proactive*
- *User-centric*
- *It's all about control – preserving personal control and freedom of choice over one's data flows*

# Why We Need *Privacy by Design*

Most privacy breaches remain undetected – as regulators, we only see the tip of the iceberg

**The majority of privacy breaches remain unchallenged, unregulated ... unknown**

*Compliance alone, is unsustainable as the sole model for ensuring the future of privacy*

# *Privacy by Design in 2010: Gathering Momentum*

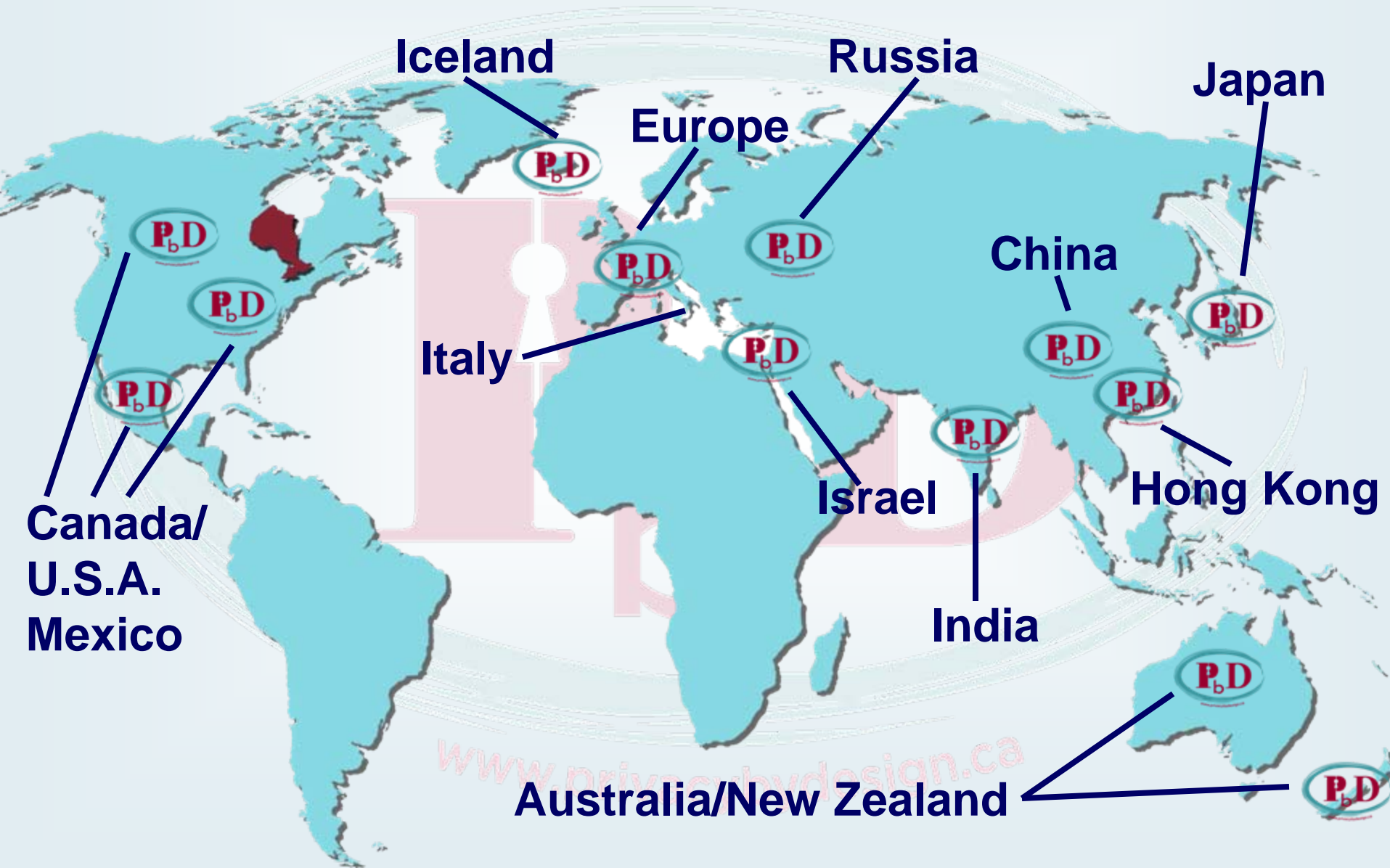
- **May** – As part of the European Commission’s new European Digital Agenda, **Peter Hustinx**, the European Data Protection Supervisor, recommended that *Privacy by Design* be included as a binding principle into data protection legal framework;  
[www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2010/10-03-19\\_Trust\\_Information\\_Society\\_EN.pdf](http://www.edps.europa.eu/EDPSWEB/webdav/site/mySite/shared/Documents/Consultation/Opinions/2010/10-03-19_Trust_Information_Society_EN.pdf)
- **October** – Regulators from around the world gathered at the annual assembly of **International Data Protection and Privacy Commissioners** in Jerusalem, Israel, and unanimously passed a landmark Resolution recognizing *Privacy by Design* as an essential component of fundamental privacy protection;  
[www.privacylaws.com/templates/EnewsPage.aspx?id=1663](http://www.privacylaws.com/templates/EnewsPage.aspx?id=1663)
- **December** – The **U.S. Federal Trade Commission** released a major report on protecting consumer privacy in which it recommended that companies adopt a *Privacy by Design* approach by building privacy protections into their everyday business practices.  
[www.privacybydesign.ca/media-centre/in-the-news/](http://www.privacybydesign.ca/media-centre/in-the-news/)



# *Privacy by Design in 2011 ... We're Just Getting Started*

- **January** – Washington D.C. think tank, **Future of Privacy Forum** included *Privacy by Design* as being “In” – *Annual List of Privacy In and Outs – PbD* one of the new top *positive* trends of 2011.  
[www.futureofprivacy.org/2011/01/03/fpfs-first-annual-list-of-privacy-ins-and-outs/](http://www.futureofprivacy.org/2011/01/03/fpfs-first-annual-list-of-privacy-ins-and-outs/)
- **January** – World-renown cyber-guru, **Don Tapscott**, wrote an op-ed stating that, “*Cavoukian's Privacy by Design playbook explains how to build privacy protections into everyday business practices. Every business needs to design privacy principles and practices into their operations.*”  
[www.theglobeandmail.com/report-on-business/commentary/don-tapscott/social-medias-unexpected-threat/article1854656/](http://www.theglobeandmail.com/report-on-business/commentary/don-tapscott/social-medias-unexpected-threat/article1854656/)

# *Privacy by Design* – “Gone Viral”

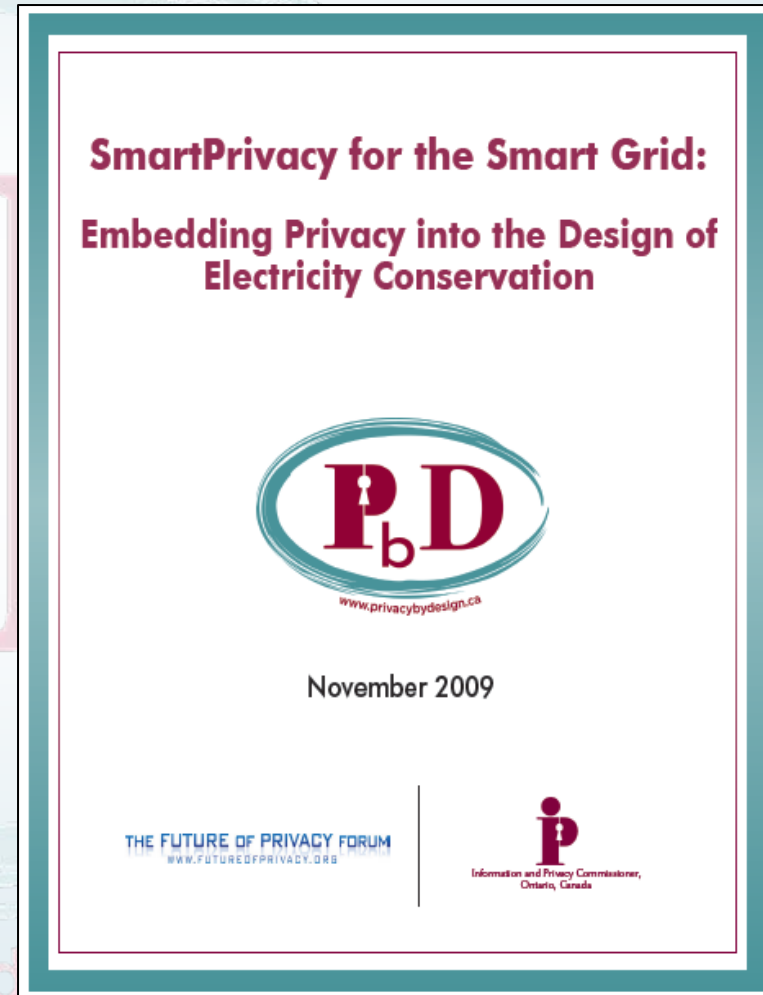


# SmartPrivacy for the Smart Grid:

## *Embedding Privacy into the Design of Energy Conservation*

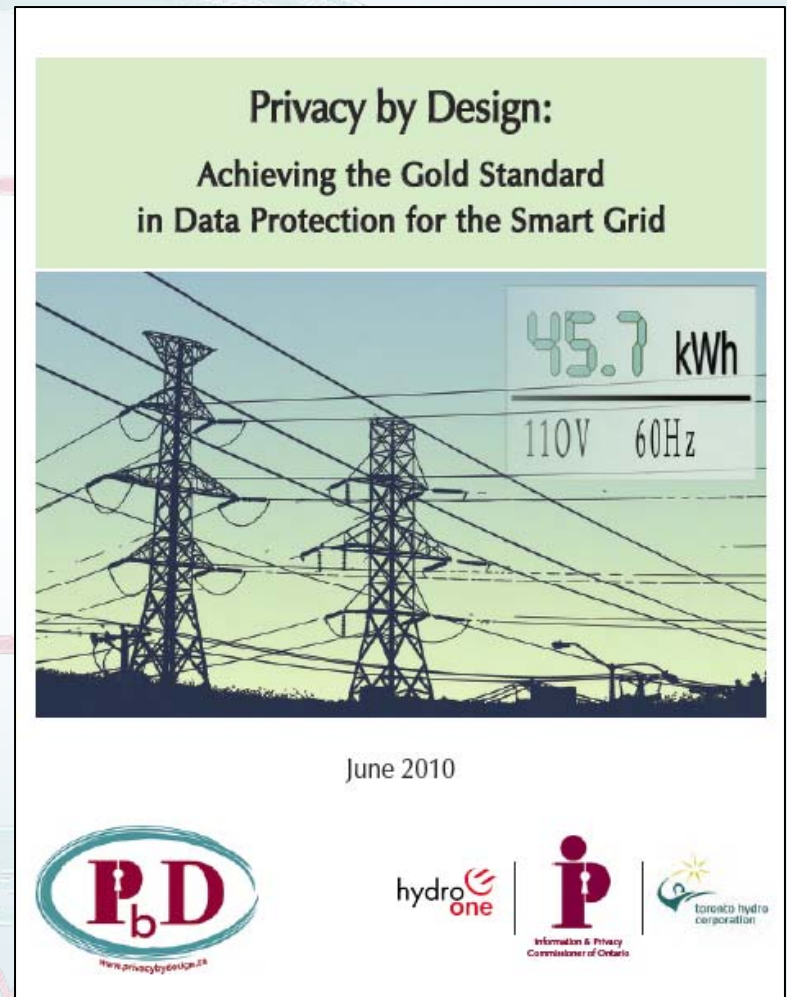
*“The smart grid is certainly a good idea, which I strongly support. But the focus has been so singularly on controlling energy use that I think the privacy issue is a sleeper – it is not top-of-mind.”*

— Commissioner Cavoukian,  
Toronto Star, *Smart grid saves power, but can it thwart hackers?*, August 3, 2009



# *Privacy by Design: Achieving the Gold Standard in Data Protection for the Smart Grid*

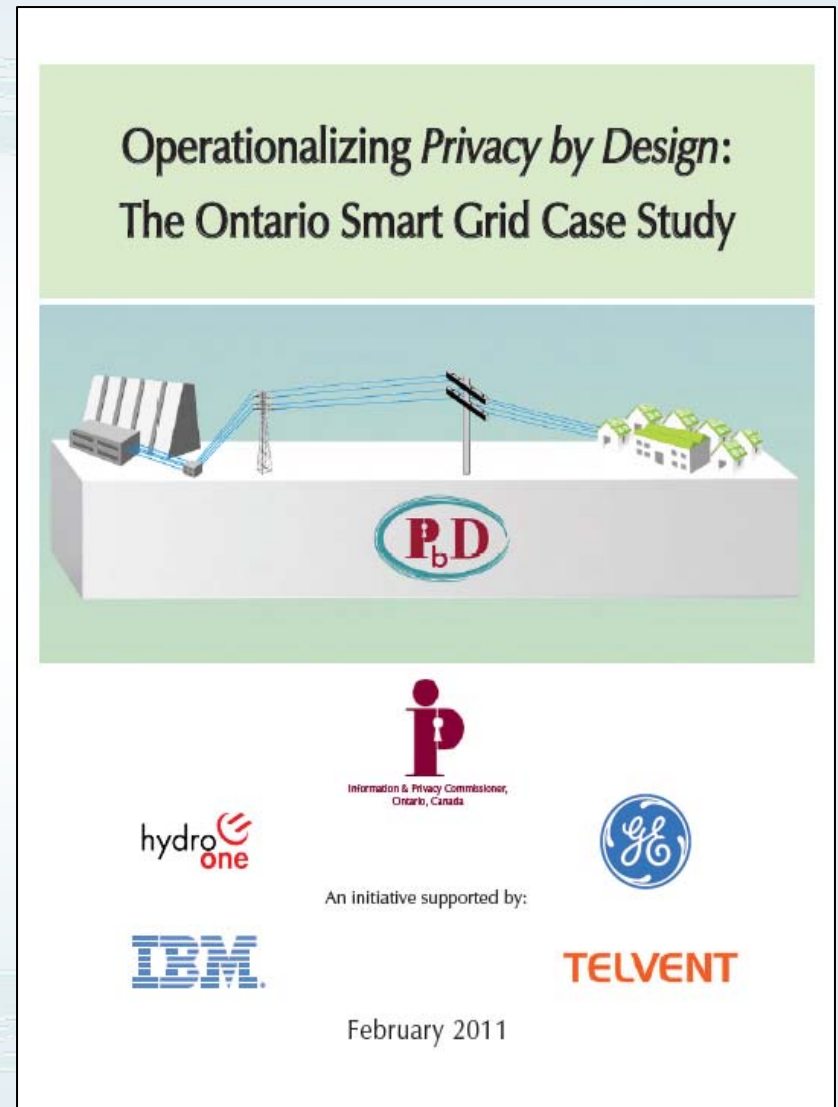
- The Smart Grid in Ontario
- Personal Information on the Smart Grid
- *Privacy by Design: The Gold Standard*
- *Best Practices for the Smart Grid: Think Privacy by Design*
- Smart Grid *Privacy by Design* Use Case Scenarios



# New IPC Smart Grid Paper

## Operationalizing *Privacy by Design* Into the Smart Grid:

- Methodology for Operationalization;
- Operationalizing *Privacy by Design* across Smart Grid Domains;
- Working with partners – Hydro One, GE, IBM, Telvent.



# Discussion

**Q's & A's**

**PbD**



[www.privacybydesign.ca](http://www.privacybydesign.ca)

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